

## **AMENDMENTS TO THE CLAIMS:**

Claims 1-37 are canceled without prejudice or disclaimer. Claims 38-96 are added. The following is the status of the claims of the above-captioned application, as amended.

Claims 1-37 (Canceled.)

38. (New.) A process for production of an alcohol product comprising the sequential steps of:
- (a) providing a slurry comprising water and granular starch,
  - (b) holding said slurry in the presence of an acid alpha-amylase and a glucoamylase at a temperature of 0°C to 20°C below the initial gelatinization temperature of said granular starch for a period of 5 minutes to 12 hours,
  - (c) holding said slurry in the presence of an acid alpha-amylase and a glucoamylase and a yeast at a temperature between 10°C and 35°C to produce ethanol and,
  - (d) optionally recovering the ethanol.
39. (New.) The process of claim 1, wherein the product is fuel ethanol, potable ethanol and/or industrial ethanol.
40. (New.) The process of claim 1, wherein the temperature under step (c) is between 28°C and 36°C.
41. (New.) The process of claim 1, wherein the temperature under step (c) is between 29°C and 35°C.
42. (New.) The process of claim 1, wherein the temperature under step (c) is between 30°C and 34°C.
43. (New.) The process of claim 1, wherein the temperature under step (c) is between 11°C and 17°C.
44. (New.) The process of claim 1, wherein the temperature under step (c) is between 12°C and 16°C.

45. (New.) The process of claim 1, wherein the temperature under step (c) is between 13°C and 15°C.
46. (New.) The process of claim 1, wherein the alcohol product is a beer.
47. (New.) The process of claim 1, wherein the acid alpha-amylase and the glucoamylase are added in step (b) in a ratio of between 0.30 and 5.00 AFAU/AGU.
48. (New.) The process of claim 1, wherein the acid alpha-amylase and the glucoamylase are added in step (c) in a ratio of between 0.30 and 5.00 AFAU/AGU.
49. (New.) The process of claim 1, wherein the acid alpha-amylase is an acid fungal alpha-amylase.
50. (New.) The process of claim 1, wherein the acid fungal alpha-amylase is obtained from a strain of *Aspergillus*.
51. (New.) The process of claim 1, wherein the acid fungal alpha-amylase is obtained from a strain of *Aspergillus niger* or a strain of *Aspergillus oryzae*.
52. (New.) The process of claim 1, wherein the acid alpha-amylase is an acid alpha-amylase having an amino acid sequence of SEQ ID NO:1.
53. (New.) The process according to claim 1, wherein the glucoamylase is obtained from a strain of *Aspergillus*, *Talaromyces* or *Clostridium*.
54. (New.) The process according to claim 1, wherein the glucoamylase is obtained from a strain of *Aspergillus niger*.
55. (New.) The process of claim 1, wherein the acid alpha-amylase is an acid bacterial alpha-amylase.
56. (New.) The process of claim 55, wherein the acid alpha-amylase is derived from a strain of *B. licheniformis*, *B. amyloliquefaciens* or *B. stearothermophilus* alpha-amylase.
57. (New.) The process of claim 1, wherein the acid alpha-amylase activity is present in an

amount of 50-500 AFAU/kg of DS.

58. (New.) The process of claim 1, wherein the glucoamylase activity is present in an amount of 20-200 AGU/kg of DS.

59. (New.) The process of claim 1, wherein the ratio between acid alpha-amylase activity and glucoamylase activity is between 0.35 and 5.00 AFAU/AGU.

60. (New.) The process of claim 1, wherein step (b) is performed in the presence of an enzyme activity selected from the group consisting of xylanase, cellulase and phytase.

61. (New.) The process of claim 1, wherein step (c) is performed in the presence of an enzyme activity selected from the group consisting of xylanase, cellulase and phytase.

62. (New.) The process of claim 1, wherein the starch slurry has 5-60% DS granular starch.

63. (New.) The process of claim 1, wherein the starch slurry has 10-50% DS granular starch.

64. (New.) The process of claim 1, wherein the starch slurry has 20-40% DS granular starch.

65. (New.) The process of claim 1, wherein the pH during step (b) is in the range of 3.0 to 7.0.

66. (New.) The process of claim 1, wherein the pH during step (b) is in the range of 3.5 to 6.0.

67. (New.) The process of claim 1, wherein the pH during step (b) is in the range of 4.0-5.0.

68. (New.) The process of claim 1, wherein the pH during step (c) is in the range of 3.0 to 7.0.

69. (New.) The process of claim 1, wherein the pH during step (c) is in the range of 3.5 to 6.0.

70. (New.) The process of claim 1, wherein the pH during step (c) is in the range of 4.0-5.0.
71. (New.) The process of claim 1, wherein the granular starch is obtained from tubers, roots, stems, fruits, seeds or whole grain.
72. (New.) The process of claim 1, wherein the granular starch is obtained from corn, cobs, wheat, barley, rye, milo, sago, cassava, manioc, tapioca, sorghum, rice or potatoes.
73. (New.) The process of claim 1, wherein the granular starch is obtained from cereals.
74. (New.) The process of claim 1, wherein the granular starch is obtained from dry milling or wet milling of whole grain.
75. (New.) The process of claim 1, wherein the holding time under step (b) is from 10 minutes to 6 hours.
76. (New.) The process of claim 1, wherein the holding time under step (b) is from 15 minutes to 3 hours.
77. (New.) The process of claim 1, wherein the holding time under step (b) is from 20 minutes to 1½ hour.
78. (New.) The process of claim 1, wherein the holding time under step (b) is from 30 minutes to 1 ¼ hour.
79. (New.) The process of claim 1, wherein the holding time under step (b) is from 40 to 70 minutes.
80. (New.) The process of claim 1, wherein the holding time under step (b) is from 50 to 60 minutes.
81. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 20 to 250 hours.
82. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 5

to 190 hours.

83. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 30 to 180 hours.

84. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 40 to 170 hours.

85. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 50 to 160 hours.

86. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 60 to 150 hours.

87. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 70 to 140 hours.

88. (New.) The process of claim 1, wherein the holding time under step (c) for a period of 80 to 130 hours.

89. (New.) The process according to claim 1, wherein the temperature under step (b) is from 45°C to 75°C.

90. (New.) An enzyme composition comprising acid alpha-amylase activity and glucoamylase activity in a ratio of between 0.30 and 5.00 AFAU/AGU and one or more additional enzymes selected from the group consisting of cellulase, xylanase and phytase.

91. (New.) A mashing process comprising treating a mash with an acid alpha-amylase.

92. (New.) The process of claim 91, wherein the acid alpha-amylase is derived from a fungus.

93. (New.) The process of claim 91, wherein the acid alpha-amylase is derived from *Aspergillus*.

94. (New.) The process of claim 91, wherein the acid alpha-amylase is derived from *A. niger*.

95. (New.) The process of claim 91, wherein the acid alpha-amylase has the amino acid sequence shown in SEQ ID NO:1

96. (New.) The process of claim 91, comprising;

- (a) forming a mash comprising between 5% and 100% barley malt (w/w of the grist);
- (b) prior to, during or after a) adding an acid alpha-amylase and at least one enzyme selected from the list comprising: a protease, cellulase and a maltose generating enzyme.
- (c) attaining within 15 minutes of a) an initial incubation temperature of at least 70°C;
- (d) following c) incubating the mash at a temperature of at least 70°C for a period of time sufficient to achieve an extract recovery of at least 80%.